

# Mineral Industry Surveys

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## SULFUR IN MAY 2006

During the month, production of recovered elemental sulfur was 709,000 metric tons, according to the U.S. Geological Survey. May 2006 production was 5% higher than that of April 2006 and 10% lower than that of May 2005. Shipments were 7% higher than those of April 2006. Producers' ending stocks for May 2006 were 163,000 tons.

Sulfur production was significantly lower than it was in May 2005. Sulfur production at petroleum refineries has begun to recover to the level experienced before two major hurricanes struck the Gulf Coast in August and September 2005. Acid gas reinjection at a large natural gas operation in Wyoming reduced sulfur production from that source by about 30%. Production from refineries is expected to continue to improve, but recovery

from natural gas operations is not predicted to increase significantly.

Import and export data for May 2006 were not available at the time of publication and will be published in the Sulfur in June 2006 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for April 2006 were estimated to be 219,000 tons; exports were 11,000 tons. Imports of sulfuric acid for April 2006 were 234,000 tons; exports were 19,000 tons.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

TABLE 1  
SALIENT SULFUR STATISTICS<sup>1</sup>

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks <sup>3</sup>
	Petroleum <sup>2</sup>	Natural gas	Total		
2005:					
January-December	6,940	1,810	8,750	8,720	XX
January-May	2,930	807	3,740	3,720	XX
May	626	159	785	772	178
June	621	158	778	775	178
July	623	153	776	776	175
August	647	163	811	812	175
September	489	141	630	634	165
October	478	136	614	614	158
November	555	129	683	671	167
December	593	120	714	721	156
2006:					
January	572 <sup>r</sup>	114	686 <sup>r</sup>	677 <sup>r</sup>	160
February	513 <sup>r</sup>	114	627 <sup>r</sup>	632 <sup>r</sup>	151
March	544 <sup>r</sup>	112	656 <sup>r</sup>	660 <sup>r</sup>	143
April	554 <sup>r</sup>	120	674 <sup>r</sup>	656 <sup>r</sup>	162
May <sup>p</sup>	590	119	709	701	163
Total	2,770	580	3,350	3,330	XX

<sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes a small quantity from coking operations.

<sup>3</sup>Subject to inventory adjustments.

TABLE 2  
U.S. IMPORTS OF SULFUR<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Venezuela		Total, all countries <sup>2</sup>	
	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>
2005:								
January-December	1,970	33,500	427	18,600	409	16,800	2,820 <sup>r</sup>	70,500 <sup>r</sup>
January-April	585	9,050	141	6,480	131	4,880	903	20,700
April	165	2,530	20	1,840	38	1,440	249	5,830
May	170	1,890	40	1,570	40	1,600	251	5,140
June	165	2,460	40	1,780	30	1,340	235	5,670
July	170	2,650	40	1,490	38	1,440	218	5,610
August	170	2,820	20	808	31	1,280	221	5,040
September	160	3,020	39	1,600	41	1,670	241	6,360
October	185	3,570	44	1,900	37	1,620	227	7,770
November	180	3,680	29	1,130	20	819	233	5,710
December	185	4,360	34	1,890	41	2,180	261	8,500
2006:								
January	165	4,190	58	2,520	37	1,680	260	8,460
February	150	3,910	43	1,810	40	1,650	233	7,450
March	165	3,970	44	2,010	34	1,580	243	7,690
April	160	4,290	29	1,420	30	1,410	219	7,230
Total	640	16,400	174	7,760	141	6,320	955	30,800

<sup>e</sup>Estimated. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

TABLE 3  
U.S. IMPORTS OF SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			Total, all countries <sup>2</sup>		
	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>
2005:									
January-December	2,000	656	80,700	398	129	7,920	2,660	871	102,000
January-April	721	237	27,000	149	49	2,800	965	316	35,600
April	191	63	7,770	25	8	497	250	82	9,660
May	158	52	6,370	34	11	606	192	63	7,080
June	144	47	5,360	26	8	445	189	62	6,380
July	168	55	6,840	9	3	187	213	70	7,790
August	156	51	6,490	19	6	350	196	64	9,150
September	169	55	6,890	35	11	626	241	79	8,260
October	178	58	7,880	60	20	1,730	253	83	11,600
November	138	45	5,910	38	12	674	181	59	6,820
December	172	56	7,910	28	9	504	229	75	9,640
2006:									
January	194	63	7,800	16	5	444	244	80	9,030
February	161	53	6,550	23	7	416	201	66	7,670
March	198	65	7,760	19	6	454	255	83	9,050
April	207	68	7,910	16	5	400	234	77	9,100
Total	760	249	30,000	74	24	1,710	934	305	34,800

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF SULFUR AND SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value <sup>2</sup>	Quantity	Sulfur content	Value <sup>2</sup>
2005:					
January-December	683	55,900	338	108	29,500
January-April	229	19,100	123	40	9,380
April	94	6,010	51	17	3,280
May	16	1,850	26	8	2,560
June	56	5,920	38	12	3,630
July	64	4,520	24	8	1,920
August	71	5,330	25	8	2,600
September	42	3,470	26	8	2,810
October	104	7,070	32	10	3,020
November	14	2,940	7	2	992
December	87	5,790	37	12	2,560
2006:					
January	55	4,440 <sup>r</sup>	14	4	1,400 <sup>r</sup>
February	15	1,910 <sup>r</sup>	38	12	2,400
March	68	4,720 <sup>r</sup>	23	8	2,010 <sup>r</sup>
April	11	1,280	19	6	1,600
Total	149	12,300	93	31	7,400

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5  
U.S. CONSUMPTION OF SULFUR<sup>1</sup>

(Thousand metric tons)

Period	Domestic sources <sup>2</sup>	Imports <sup>c</sup>	Consumption
2005:			
January-December	8,060	2,790	10,900
January-April	2,720	908	3,630
April	665	249	914
May	756	251	1,010
June	719	235	954
July	712	218	930
August	741	221	962
September	592	241	833
October	510	227	737
November	657	233	890
December	634	261	895
2006:			
January	622 <sup>r</sup>	260	882 <sup>r</sup>
February	617 <sup>r</sup>	233	850 <sup>r</sup>
March	592 <sup>r</sup>	243	835 <sup>r</sup>
April	645	219	864
Total	2,480	955	3,430

<sup>c</sup>Estimated. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Calculated as shipments minus exports.

TABLE 6  
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,  
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT<sup>1</sup>

(Thousand metric tons)

District and source	May 2006 <sup>p</sup>		April 2006		January - May 2006 <sup>2</sup>		January - May 2005 <sup>2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	21	22	21	22	100	103	102 <sup>r</sup>	103 <sup>r</sup>
Natural gas	2	2	1	1	7	7	9 <sup>r</sup>	9 <sup>r</sup>
Total	22	23	22	23	107	110	112	112
PAD 2:								
Petroleum and coke	86	86	76 <sup>r</sup>	75 <sup>r</sup>	412	414	417 <sup>r</sup>	416 <sup>r</sup>
Natural gas	3	3	3	3	16	16	17	17
Total	89	89	79 <sup>r</sup>	78 <sup>r</sup>	428	430	434 <sup>r</sup>	433 <sup>r</sup>
PAD 3: <sup>3</sup>								
Petroleum and coke	367	373	340 <sup>r</sup>	327 <sup>r</sup>	1,710	1,700	1,850	1,850 <sup>r</sup>
Natural gas	39	37	39	39	182	181	211	215
Total	406	410	379 <sup>r</sup>	366 <sup>r</sup>	1,890	1,880	2,060 <sup>r</sup>	2,060 <sup>r</sup>
PAD 4 and 5: <sup>4</sup>								
Petroleum and coke	116	111	118	112	549	528	562	545
Natural gas	76	68	77	77	375	375	570 <sup>r</sup>	567 <sup>r</sup>
California	95	89	99	94	448	429	439	419
Total	192	179	195 <sup>r</sup>	188 <sup>r</sup>	924	903	1,130 <sup>r</sup>	1,110 <sup>r</sup>
Grand total	709	701	674 <sup>r</sup>	656	3,350	3,330	3,740	3,720

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include revisions.

<sup>3</sup>Includes the U.S. Virgin Islands.

<sup>4</sup>Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7  
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS<sup>1</sup>

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2006			2005
	May	April	Total	total
Production	8.35 <sup>p</sup>	8.20 <sup>r</sup>	8.10 <sup>r</sup>	8.75 <sup>r</sup>
Shipments	8.25 <sup>p</sup>	7.98 <sup>r</sup>	8.04 <sup>r</sup>	8.72 <sup>r</sup>
Exports of sulfur	NA	0.13	0.45	0.58
Imports of sulfur:				
Canada	NA	1.95 <sup>e</sup>	1.95 <sup>e</sup>	1.97 <sup>e</sup>
Mexico	NA	0.35	0.53	0.45
Venezuela	NA	0.37 <sup>e</sup>	0.43 <sup>e</sup>	0.41 <sup>e</sup>
Total <sup>2</sup>	NA	2.66 <sup>e</sup>	2.90 <sup>e</sup>	2.79 <sup>e</sup>
Export of H <sub>2</sub> SO <sub>4</sub>	NA	0.23	0.28	0.31
Import of H <sub>2</sub> SO <sub>4</sub> :				
Canada	NA	2.52	2.31	1.87
Mexico	NA	0.19	0.23	0.40
Total <sup>2</sup>	NA	2.85	2.84	2.66
Consumption: <sup>3</sup>				
Domestic sources	NA	7.85	7.53	8.06 <sup>r</sup>
Imports	NA	2.66 <sup>e</sup>	2.90 <sup>e</sup>	2.79 <sup>e</sup>
Total	NA	10.51	10.44	10.85 <sup>r</sup>
Sulfur export values <sup>4</sup>	NA	116	83	84
Sulfur import values: <sup>4</sup>				
Canada	NA	27	26	17
Mexico	NA	49	45	41
Venezuela	NA	47	45	41
Average <sup>2</sup>	NA	33	32	25
H <sub>2</sub> SO <sub>4</sub> export values <sup>4</sup>	NA	84	79	86
H <sub>2</sub> SO <sub>4</sub> import values: <sup>4</sup>				
Canada	NA	38	40	40
Mexico	NA	25	23	20
Average <sup>2</sup>	NA	39	37	38

<sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes other countries not listed.

<sup>3</sup>Because May trade data were not available, May consumption was not determined.

<sup>4</sup>Average value per ton for most recent data available.